SR 520 Toll Model Comparison

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Context of SR 520 Modeling to Date

- EIS is designed to:
    - Study project alternatives, determine alternative impacts, facilitate stakeholder and public input and select best project.
    - EIS process uses modeling which analyzes the size of the project versus the demand including resulting operations and level of accommodation of peak travel.

- Finance and Investment Grade Studies are designed to:
    - Estimate traffic and revenue from tolls at a detail level sufficient to support financing of the project.

The end result is that each model process results in different model results based upon the focus of the process.

Current SR 520 Toll Financial Scenarios

Scenario A: Toll Schedule from TIC Scenario 7

Focus is a balance of revenue and throughput

Scenario B: Revenue Maximizing Toll rates

Focus is revenue.

Scenario C: Traffic Operations on SR 520

Focus is on achieving optimal speeds on SR 520

Scenario D: Scenario A PM toll rates with higher AM and Off Peak tolls

Focus is a balance of revenue and throughput, but with a bit more focus
on revenue by raising off peak tolls.

Originally Scenario "C" was crafted for traffic operations, however the traffic results from
the other three scenarios provided the traffic operations benefit to SR 520
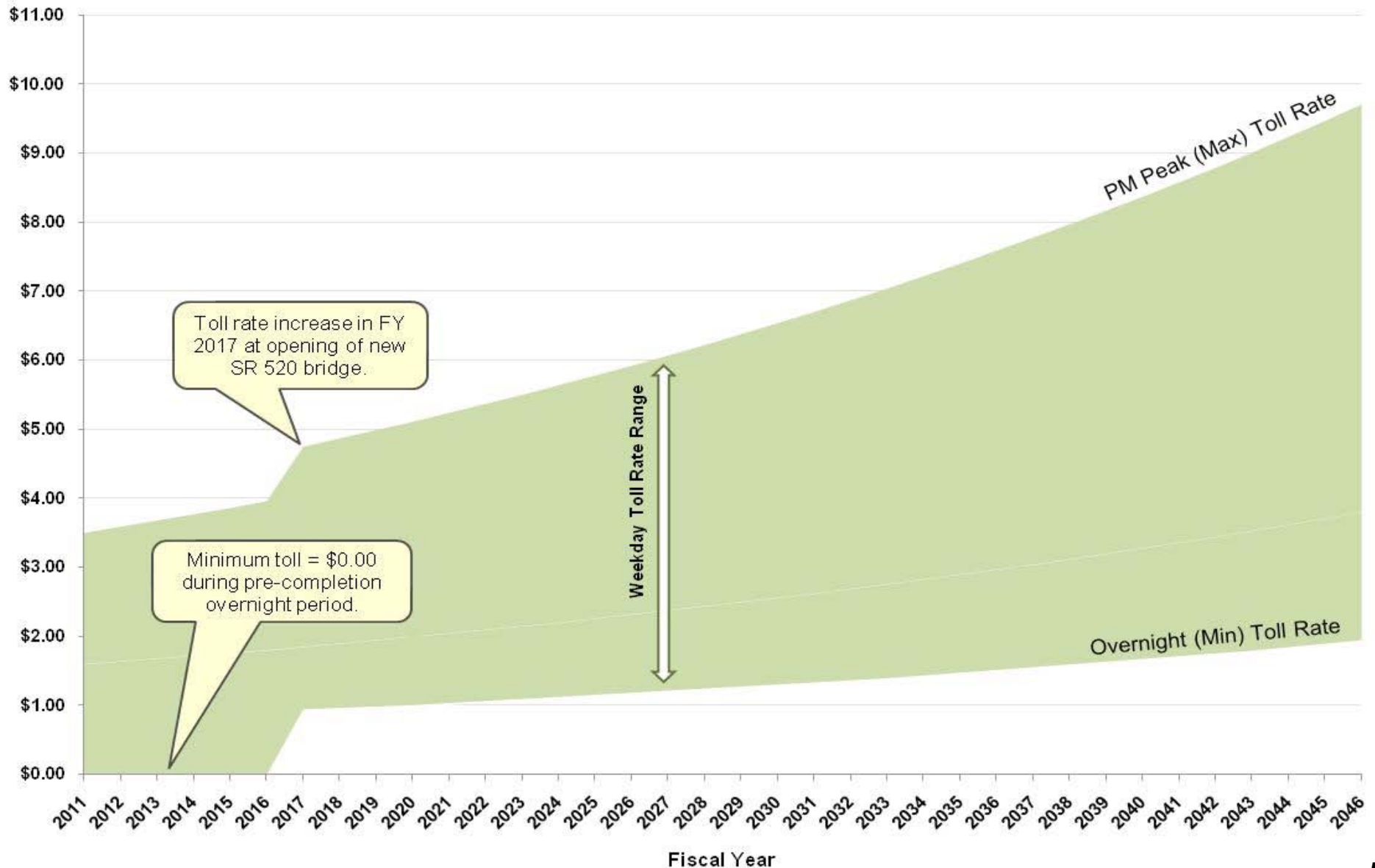and as such Scenario "C" is no longer carried forward.

Range of Toll Rates Tested

Good To Go! Weekday Toll Rate Ranges in FY 2011 & 2017 — Scenarios A, B, & D
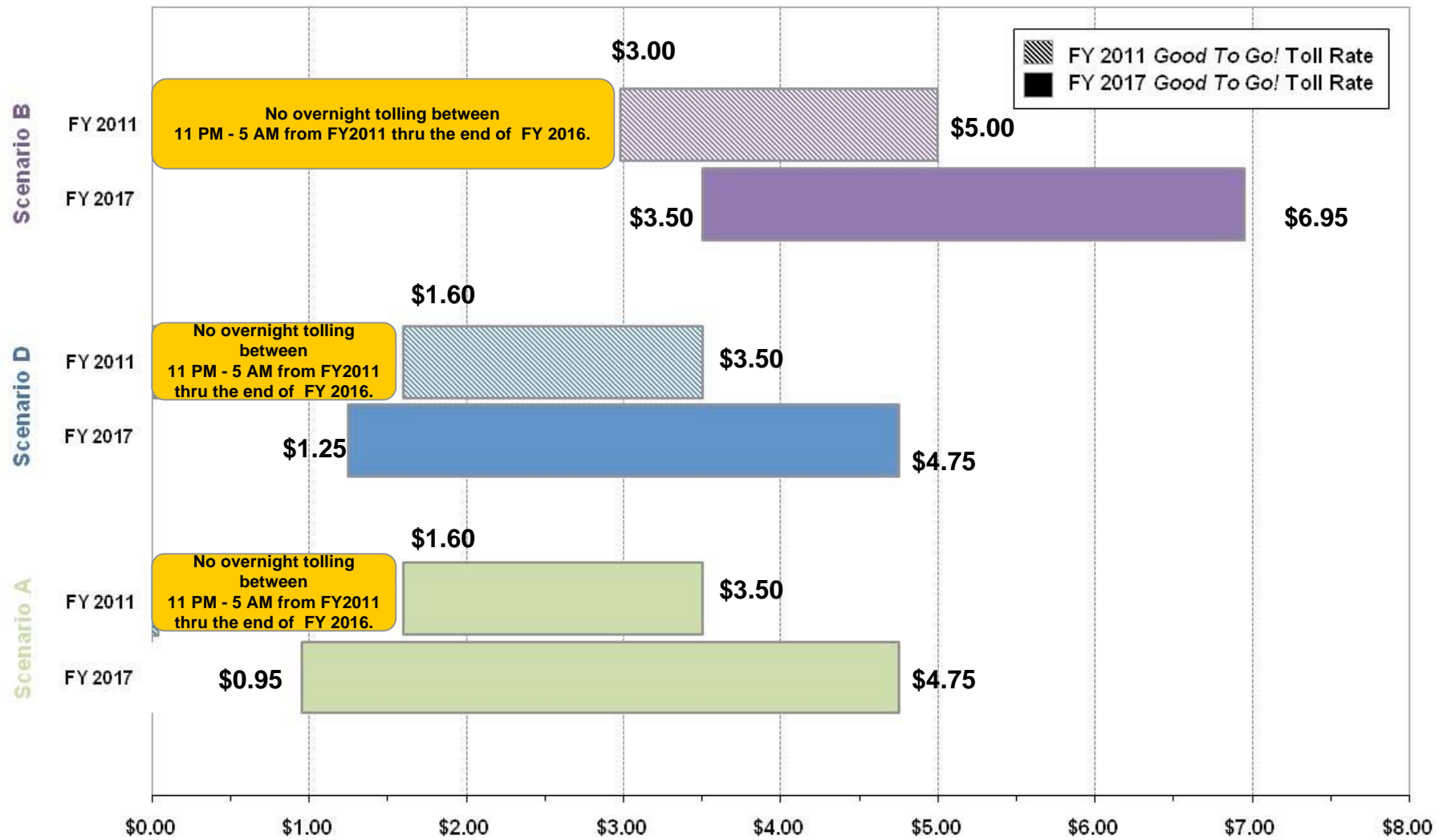
Toll Rates Increase over Time

Good To Go! Weekday Toll Rates — FY 2011 to 2046 — Scenario A

Toll Rates Vary by Time of Day

Good To Go! Weekday Toll Rates in FY 2011, 2016, & 2017 — Scenario A
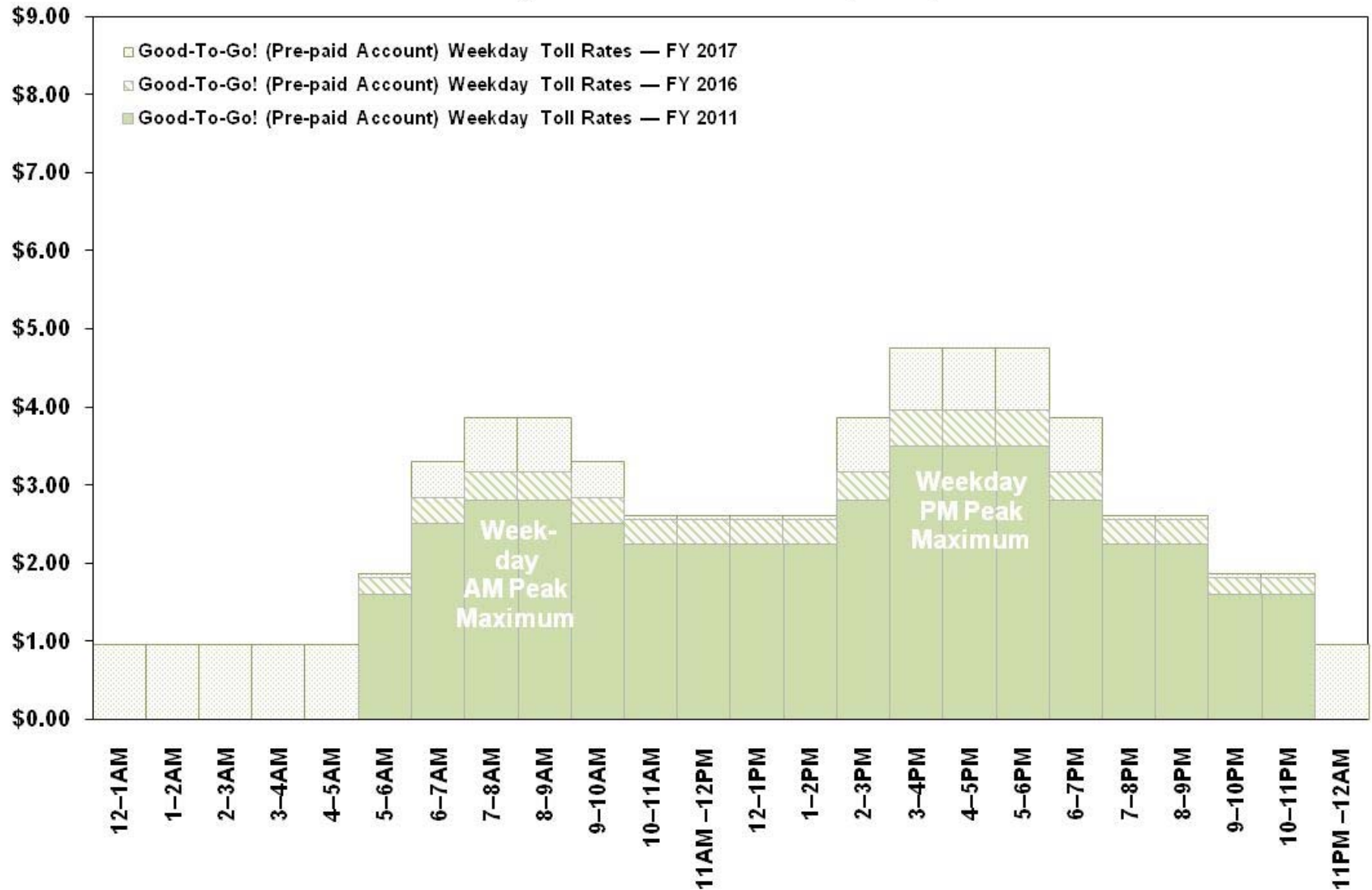
Comparison with TIC and January Finance Analysis Toll Financing Scenario 7 and Initial Investment Grade Toll Financing Scenario A

Comparison of Annual Toll Transactions:

SR 520 Toll Financial Scenario A

**Tolls are assumed to increase at 2.5% per year

Summary of Factors Changing the Traffic Projections

- Investment-grade analysis undertaken by Wilbur Smith in Fall 2009
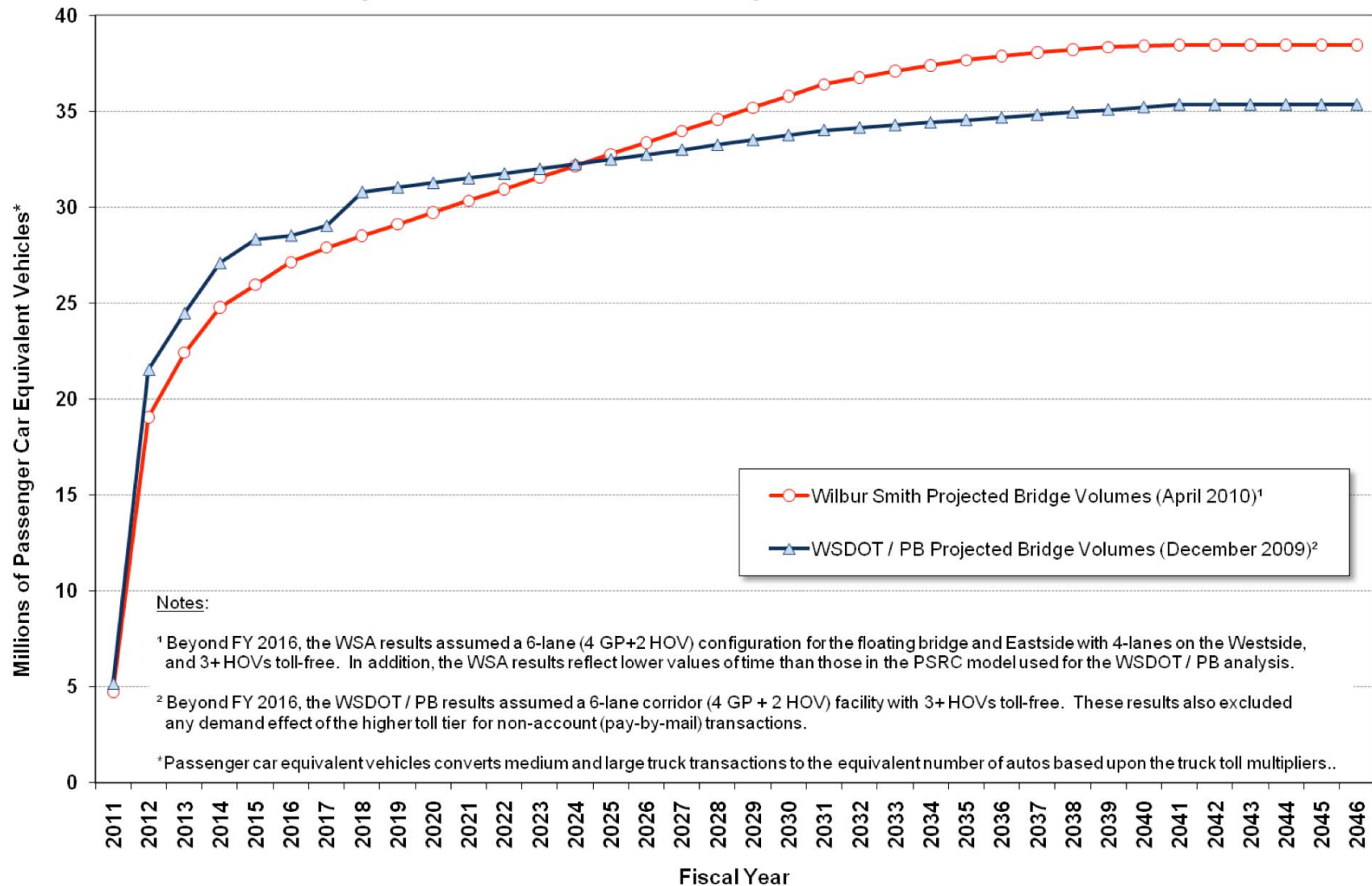 - Independent review of inputs and assumptions
  - Different methodology and process than previous work
- Lower values of time = lower willingness to pay tolls
  - Pre-2008 values of time based on 2003 stated preference survey
  - In 2008, PSRC revised model with significantly higher values of time from their "Traffic Choices Study"
  - Update stated preference survey of SR 520 users conducted in 2009
  - New, lower values of time established from survey and other data
- Existing land use (population and employment) forecasts prepared by PSRC were revised downward, especially near term
- The effect of the higher toll to be paid by customers without an established account (post-pay / pay-by-mail) included in demand modeling

FY 2011 Peak Hour/Direction Volume Change:
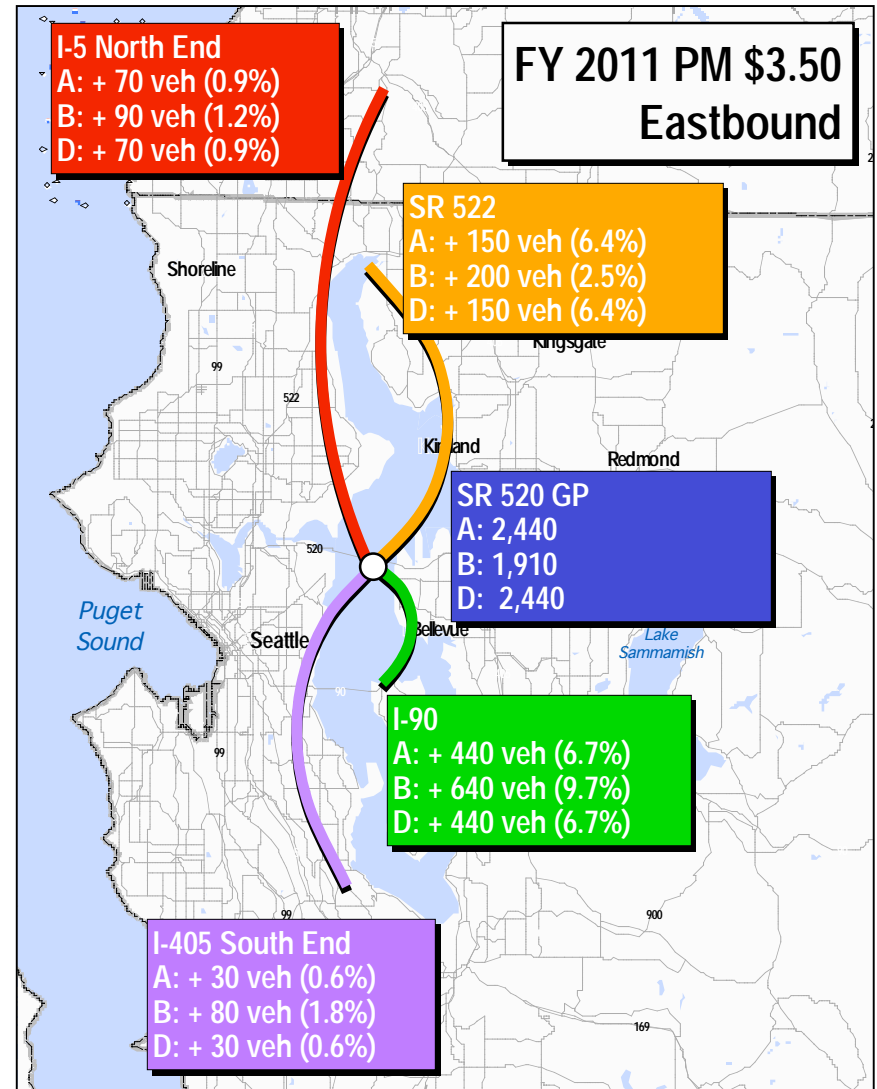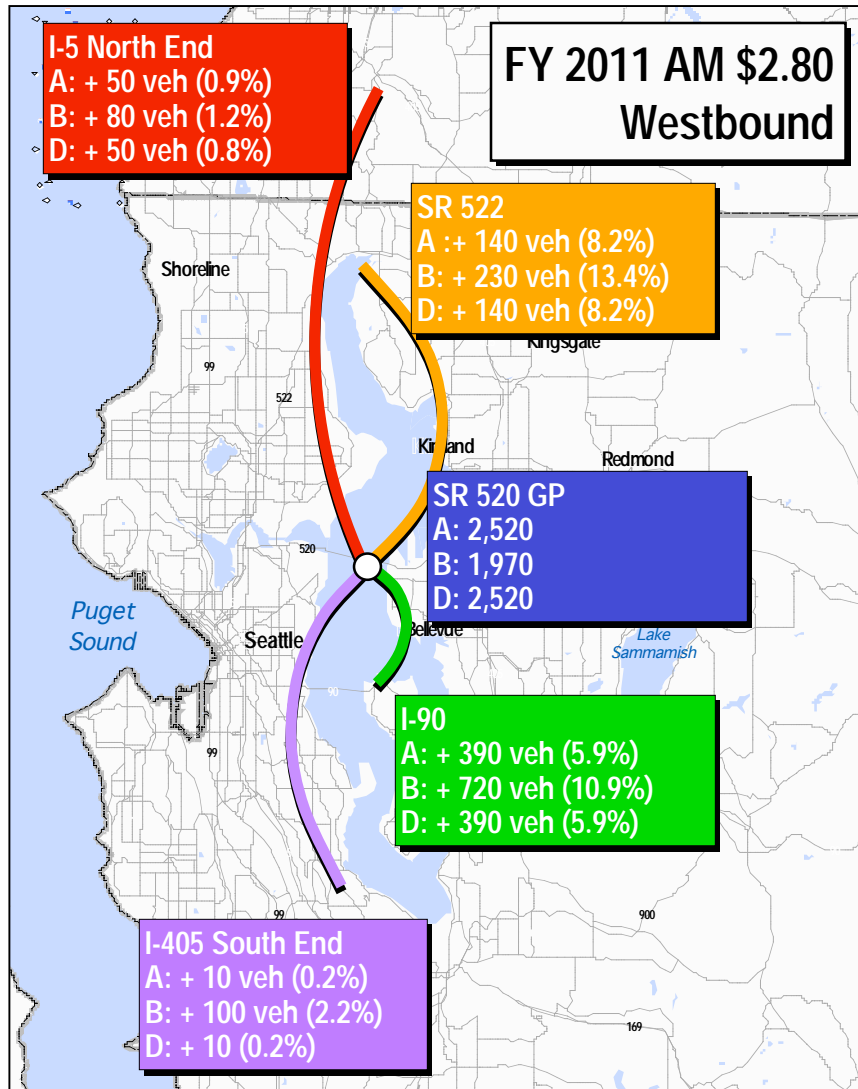
SR 520 Toll Financial Scenarios A, B, D

I-5 North End
A: + 50 veh (0.9%)
B: + 80 veh (1.2%)
D: + 50 veh (0.8%)

FY 2011 AM $2.80 Westbound

SR 522
A :+ 140 veh (8.2%)
B: + 230 veh (13.4%)
D: + 140 veh (8.2%)

SR 520 GP
A: 2,520
B: 1,970
D: 2,520

I-90
A: + 390 veh (5.9%)
B: + 720 veh (10.9%)
D: + 390 veh (5.9%)

I-405 South End
A: + 10 veh (0.2%)
B: + 100 veh (2.2%)
D: + 10 (0.2%)

I-5 North End
A: + 70 veh (0.9%)
B: + 90 veh (1.2%)
D: + 70 veh (0.9%)

FY 2011 PM $3.50 Eastbound

SR 522
A: + 150 veh (6.4%)
B: + 200 veh (2.5%)
D: + 150 veh (6.4%)

SR 520 GP
A: 2,440
B: 1,910
D: 2,440

I-90
A: + 440 veh (6.7%)
B: + 640 veh (9.7%)
D: + 440 veh (6.7%)

I-405 South End
A: + 30 veh (0.6%)
B: + 80 veh (1.8%)
D: + 30 veh (0.6%)

April refers to the Current Toll Rate Setting and Initial Investment Grade Analysis
TIC is the Tolling Implementation Committee analysis from the summer/fall of 2008
Tolls are shown in FY year of analysis and are assumed to increase at 2.5% per year

FY 2031 Peak Hour/Direction Volume Change:

SR 520 Toll Financial Scenarios A, B, D

I-5 North End
A: + 20 veh (0.2%)
B: + 50 veh (0.8%)
D: + 30 veh (0.4%)

FY 2031 AM $5.45 Westbound

SR 522
A :+ 90 veh (4.4%)
B: + 150 veh (7.5%)
D: + 110 veh (5.4%)

SR 520 GP
A: 3,480
B: 2,720
D: 3,320

I-90
A: + 220 veh (3.3%)
B: + 440 veh (6.7%)
D: + 260 veh (4.0%)

I-405 South End
A: + 20 veh (0.4%)
B: + 60 veh (1.0%)
D: + 30 (0.5%)

I-5 North End
A: + 100 veh (1.3%)
B: + 130 veh (1.7%)
D: + 100 veh (1.3%)

FY 2031 PM $6.70 Eastbound

SR 522
A: + 70 veh (3.0%)
B: + 110 veh (4.4%)
D: + 70 veh (3.0%)

SR 520 GP
A: 4,270
B: 3,340
D: 4,270

I-90
A: + 250 veh (3.7%)
B: + 420 veh (6.1%)
D: + 250 veh (3.7%)

I-405 South End
A: + 140 veh (2.5%)
B: + 80 veh (1.5%)
D: + 140 veh (2.5%)

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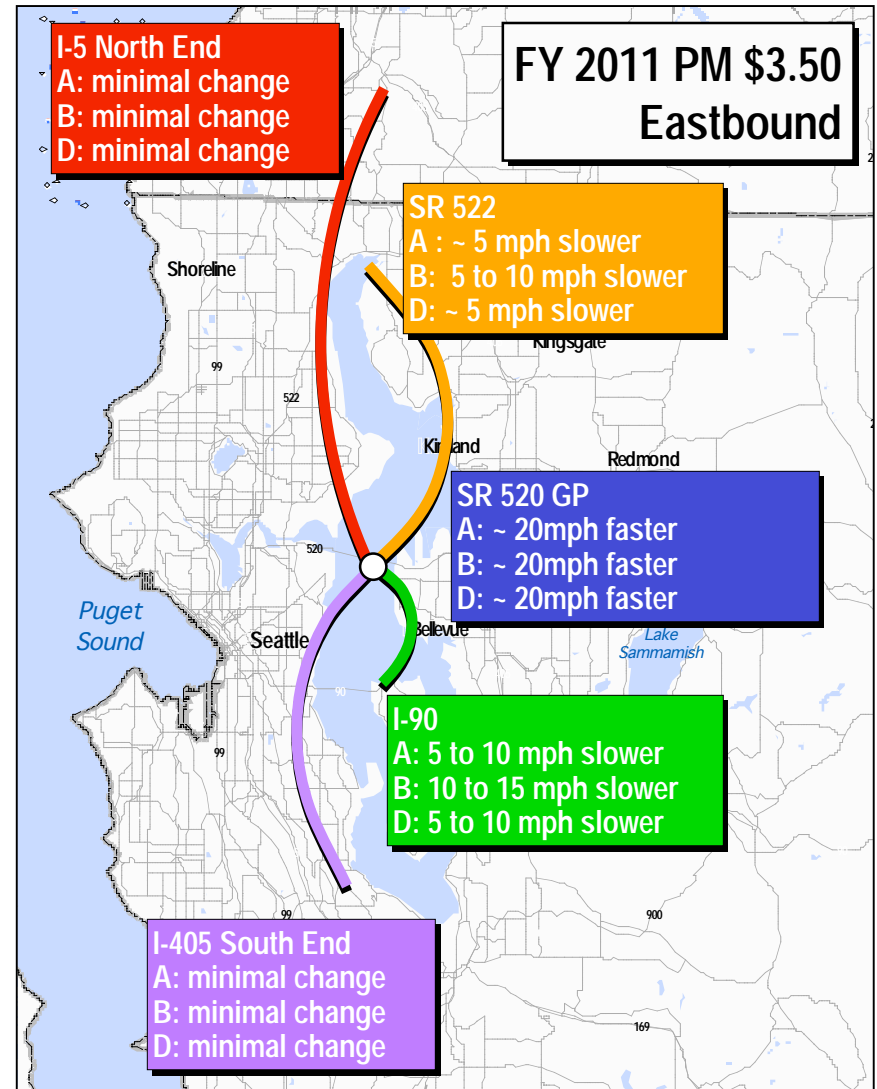
FY 2011 Peak Hour/Direction Speed Change: SR 520 Toll Financial Scenarios A, B, D

FY 2011 AM $2.80 Westbound

I-5 North End
A: minimal change
B: minimal change
D: minimal change

SR 522
A : ~ 5 mph slower
B: 5 to 10 mph slower
D : ~ 5 mph slower

SR 520 GP
A: ~ 20mph faster
B: ~ 20mph faster
D: ~ 20mph faster

I-90
A: 5 to 10 mph slower
B: 10 to 15 mph slower
D: 5 to 10 mph slower

I-405 South End
A: minimal change
B: minimal change
D: minimal change

FY 2011 PM $3.50 Eastbound

I-5 North End
A: minimal change
B: minimal change
D: minimal change

SR 522
A : ~ 5 mph slower
B: 5 to 10 mph slower
D: ~ 5 mph slower

SR 520 GP
A: ~ 20mph faster
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I-90
A: 5 to 10 mph slower
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I-405 South End
A: minimal change
B: minimal change
D: minimal change

April refers to the Current Toll Rate Setting and Initial Investment Grade Analysis
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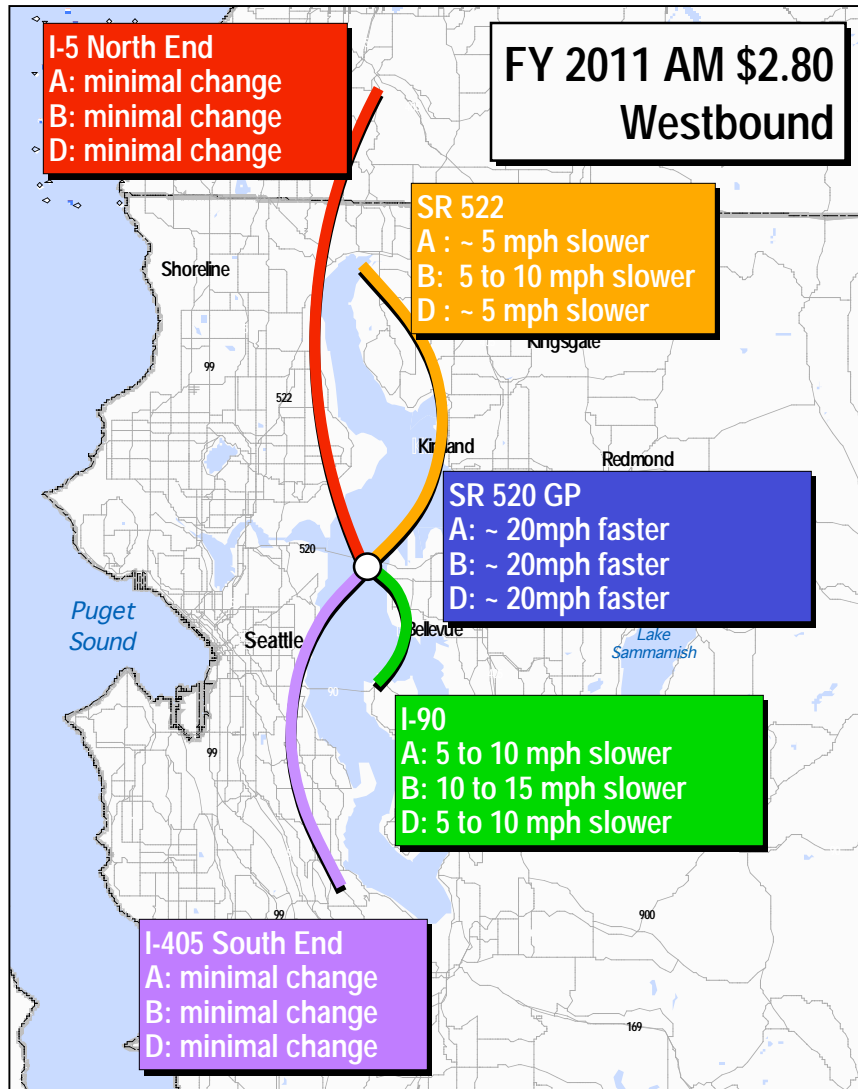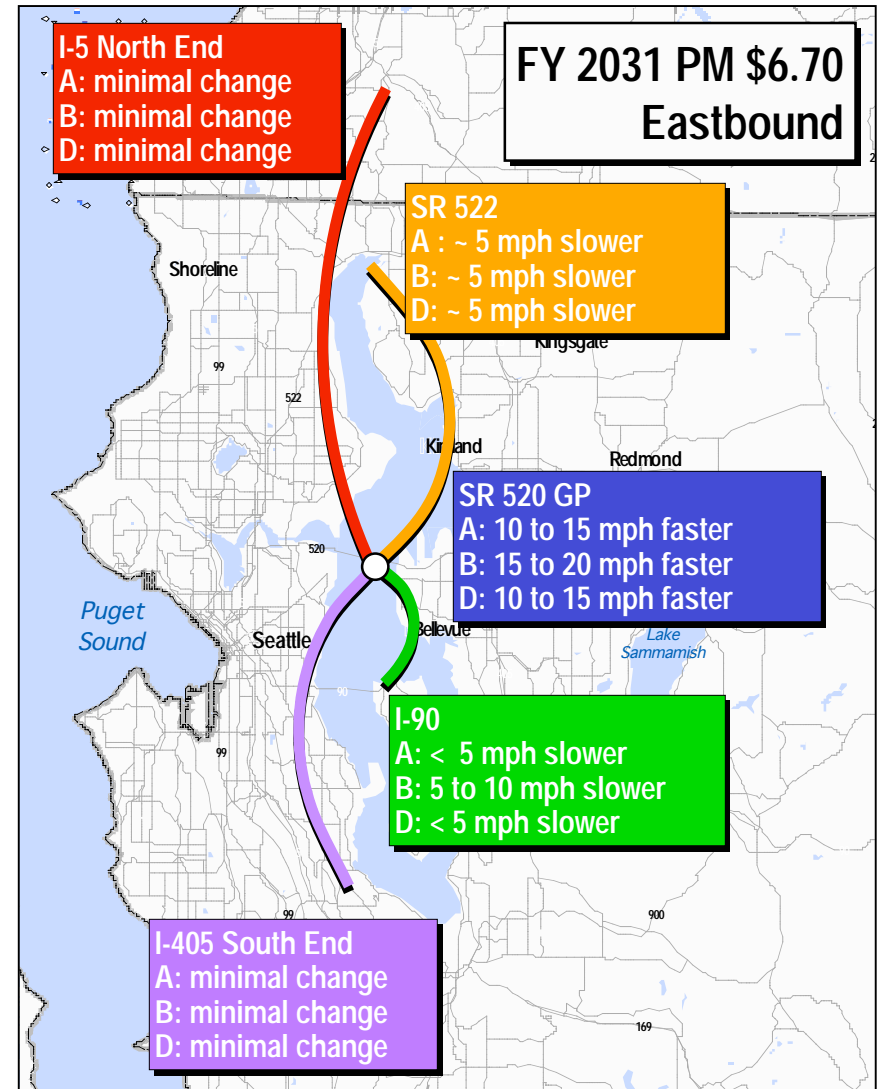**Tolls are shown in FY year of analysis and are assumed to increase at 2.5% per year**
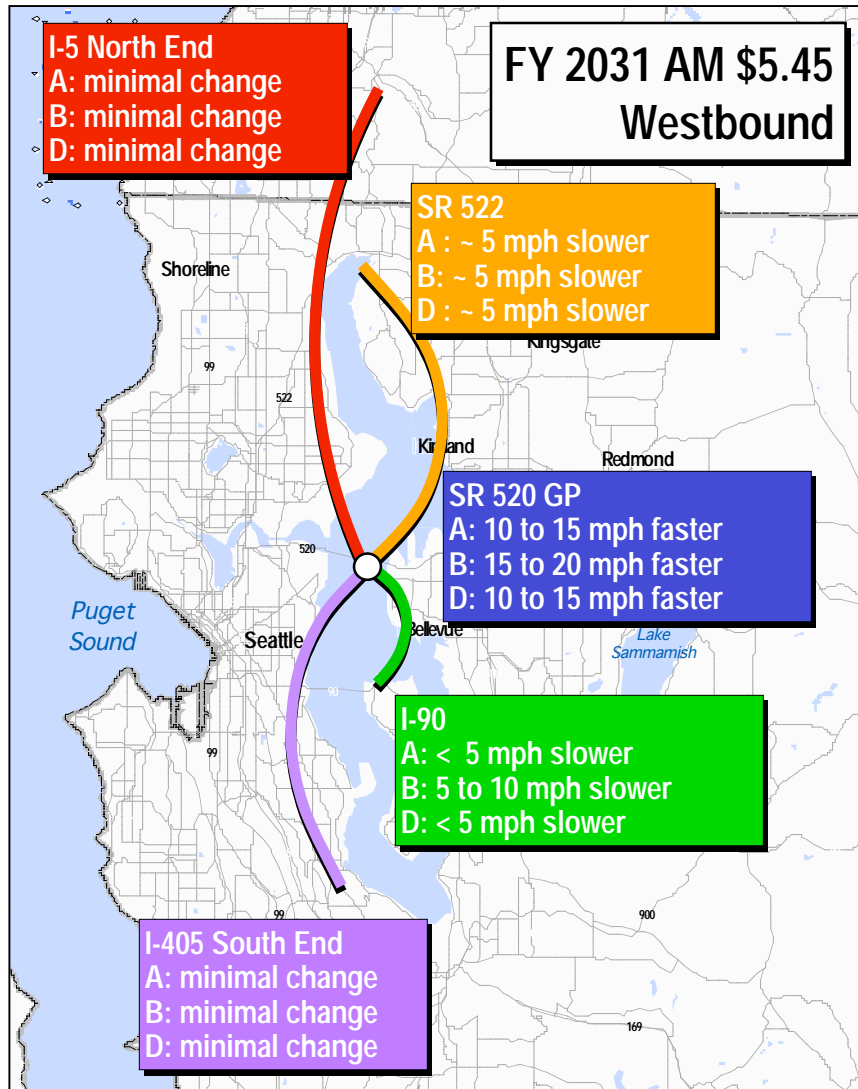
FY 2031 Peak Hour/Direction Speed Change:

SR 520 Toll Financial Scenarios A, B, D

Left map:

FY 2031 AM $5.45
Westbound

I-5 North End
A: minimal change
B: minimal change
D: minimal change

SR 522
A : ~ 5 mph slower
B: ~ 5 mph slower
D : ~ 5 mph slower

SR 520 GP
A: 10 to 15 mph faster
B: 15 to 20 mph faster
D: 10 to 15 mph faster

I-90
A: < 5 mph slower
B: 5 to 10 mph slower
D: < 5 mph slower

I-405 South End
A: minimal change
B: minimal change
D: minimal change

Right map:

FY 2031 PM $6.70
Eastbound

I-5 North End
A: minimal change
B: minimal change
D: minimal change

SR 522
A : ~ 5 mph slower
B: ~ 5 mph slower
D: ~ 5 mph slower

SR 520 GP
A: 10 to 15 mph faster
B: 15 to 20 mph faster
D: 10 to 15 mph faster

I-90
A: < 5 mph slower
B: 5 to 10 mph slower
D: < 5 mph slower

I-405 South End
A: minimal change
B: minimal change
D: minimal change

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Net Effects of the Differences

- Compared with the previous forecast for comparable Scenario 7:
    - Traffic projections are somewhat lower in the near term and higher beyond FY 2025.
        - More pronounced diversion in FY2011 with very similar diversion in FY 2031.
        - Gross revenues are also a bit lower in the near term and higher beyond FY 2025.

    The end result is a very similar gross revenue stream that is being analyzed for financial capacity.

Questions:

For more information regarding the SR 520 Toll Model Comparison, please contact:

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**Washington State
Department of Transportation**